



Water-Source Heat Pumps

WH SERIES



Features:

- 1/2 to 20 ton Horizontal Configuration
- Left or Right Return
- Left, Right, or End Discharge
- High Efficiency PSC or ECM Supply Fan Motor
- Reliable Scroll or Rotary Compressors
- Complete and Easy Service Access with Toolless Panels
- Bottom Access to Expansion Valve, Reversing Valve, Filter Drier, Air Filters, Supply Fan, and Motor
- Option Flexibility including Disconnect, High Efficiency Filtration, Hot Gas Reheat Dehumidification, and Waterside Economizer
- All Aluminum Cabinet
- Aluminum Microchannel Air Coil
- 5 Year Parts Warranty

Horizontal Configuration Water-Source Heat Pumps

○ *Designed in Quality*

○ *Easy Service Access*

○ *Aluminum Cabinet Construction*

○ *Replacement Ready Size*

WSHP | WH series

AAON WH Series Horizontal Water-Source Heat Pumps incorporate state-of-the-art manufacturing processes with the latest HVAC design technical knowledge to create a WSHP product with innovative design, performance, and serviceability. The technologically advanced AAON WSHP manufacturing line is unmatched in the industry, utilizing a unique product methodology that integrates mass production with mass customization and allows product of hundreds of units per day

Applications

- Horizontal Configuration Water-Source Heat Pumps, from ½ to 20 tons
- Standard efficiency level significantly exceeding ASHRAE Standards

Standard Features

- R-410A Scroll (2 to 20 tons) or Rotary (½ to 1 ½ tons) Compressors for reliable operation
- Aluminum Microchannel DX Coil with large face area for improved efficiency, reduced refrigerant charge, reduced air pressure drop, reduced fan horsepower and reduced unit weight
- Copper Coaxial Refrigerant-to-Water Heat Exchanger for reliable operation
- High Efficiency Direct Drive Forward Curved Supply Fans available with Permanent Split Capacitor (PSC) motors or Electronically Commutated Motors (ECM)
- High Condensate Level Sensor for Indicating a Higher than Normal Condensate Level in the Drain Pan to Prevent Overflows
- AAON Pioneer Silver Controller with terminal block for connection to a standard heat pump thermostat containing the following terminals:

G = Blower

Y = Compressor

O = Reversing Valve

R = 24V Supply

COM = Common

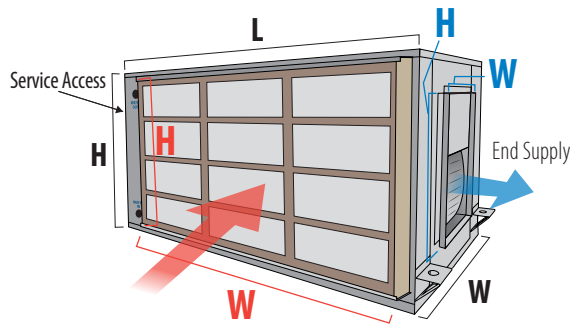
Construction

- Replacement Ready size matches with conventional water-source heat pumps
- All Aluminum Construction results in significantly less weight and superior corrosion resistance
- Hem Bends reduce sharp edges and improve serviceability
- Left or Right Hand Return
- Left, Right or End Discharge (field convertible)
- Closed Cell Neoprene Foam Cabinet Insulation Eliminates Fiber in the Air Stream.
- Four Inch Filter Rack available with High Efficiency Filters, Up to MERV 14
- **Bottom Service Access** to expansion valve, reversing valve, filter drier, supply fan, and filters
- Integrated Hanging Brackets with Rubber Vibration Isolation are durable and simplify installation
- Sloped Stainless Steel Drain Pan includes Automated TIG and Induction Welding
- Induction Brazed Copper Piping Connections
- Integrated Two Inch Filter Rack - Standard on B Cabinet (1 ¼ ton) and Larger!
- Sellable or Recyclable Sheet Metal Pallet - Standard!
- 5 Year Parts Warranty - Standard!

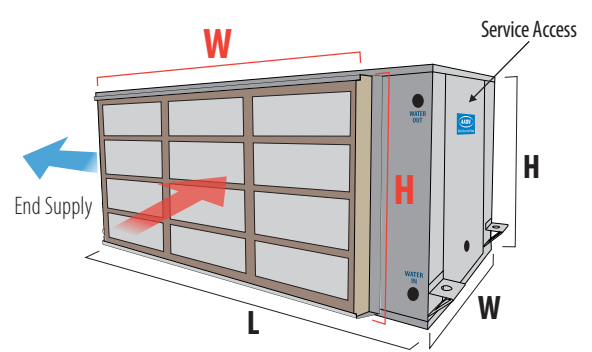
Factory Installed Options

- Corrosion Resistant Cupronickel Coaxial Refrigerant-to-Water Heat Exchanger
- Factory Installed Non-Fused Disconnect Switch
- Low Sound Package reduce fan and compressor sound
- One Inch Foil Faced Cotton Fiber Cabinet Insulation
- Toolless Control Panel Service Access
- Factory Provided Return Air Duct Connection
- ECM Fan Speed Control Dehumidification
- Hot Gas Reheat Dehumidification
- Factory Installed Waterside Economizer with Three-Way Motorized Valve
- Ground/Ground Water Loop Insulation for Geothermal application
- AAON Pioneer Gold Controller for Standalone Control with Space Sensor and BACnet MSTP Network Configuration
- Two-Step Compressors (2-5 tons) for improved humidity control and part load efficiency.

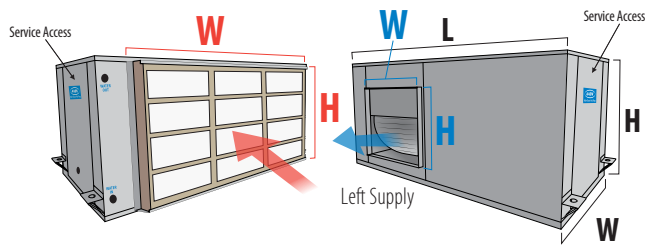
Horizontal Configuration Airflow



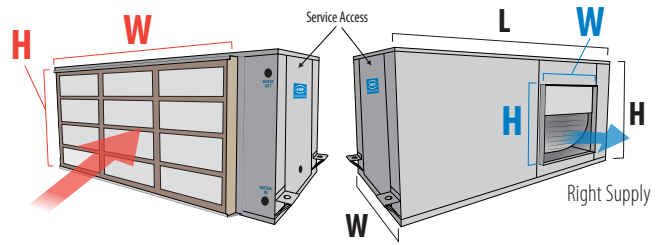
WH Series Horizontal Water-Source Heat Pump
Right Return with End Supply



WH Series Horizontal Water-Source Heat Pump
Left Return with End Supply



WH Series Horizontal Water-Source Heat Pump
Right Return with Left Supply



WH Series Horizontal Water-Source Heat Pump
Left Return with Right Supply

WH Series Physical Data

WH Model (MBH)	Cabinet	Configuration	Cabinet Size			Supply Air Opening		Return Air Opening		Water (FPT)		Weight (lbs.)	Refrigerant Charge (oz.)
			W	L	H	W	H	W	H	In	Out		
WH-006	A	Horizontal	19	34	10 3/4	9 1/8	4 1/4	23 1/2	9 3/4	1/2	1/2	73	18
WH-009												75	25
WH-012												78	25
WH-015	B	Horizontal	20	43	17	7 3/8	10 3/8	31 1/2	15 3/4	1/2	1/2	120	36
WH-018												122	
WH-024	C	Horizontal	22	43	17	9 3/8	9 7/8	31 1/2	15 3/4	1/2	1/2	158	42
WH-030										3/4	3/4	162	
WH-036	D	Left or Right Return	22	48	25 1/2	10 3/4	10 3/8	38 3/4	19 1/8	3/4	3/4	179	52
WH-042												199	62
WH-048	E	Left, Right, or End Discharge	24	54	21	10 3/4	13	46 1/2	19 5/8	3/4	3/4	239	76
WH-060										1	1	247	80
WH-072	F	Horizontal	36 1/2	79	21 3/4	15	15 1/4	71 3/4	18 1/4	1 1/4	1 1/4	TBD	TBD
WH-096										1 1/2	1 1/2		
WH-120	G	Horizontal											
WH-150													
WH-180													
WH-240													

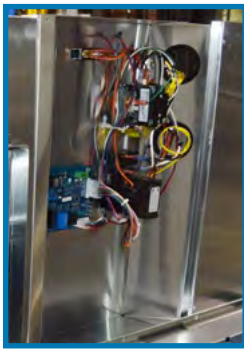
Future

All dimensions are in inches. Dimensions and weight may vary depending on options selected.



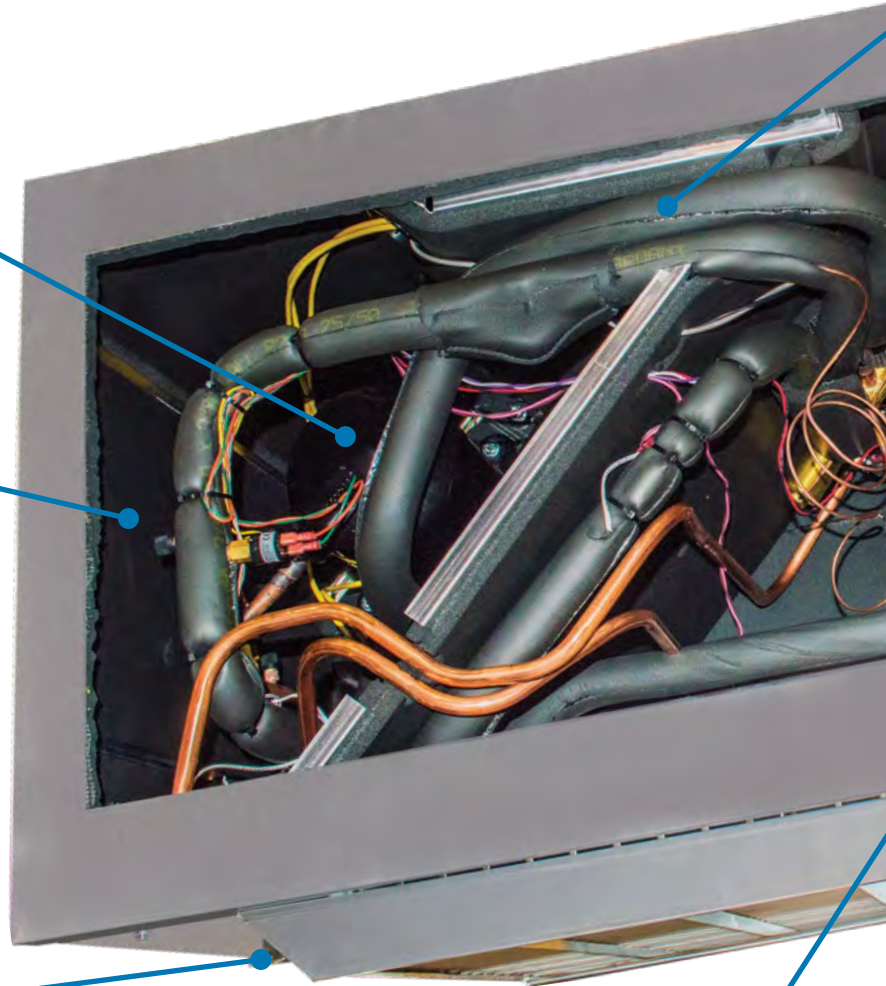
Reliable Scroll/Rotary Compressors

R-410A scroll compressors are included on units 2 tons and larger. R-410A rotary compressors are included on units from 1/2 through 1 1/2 tons. Compressors are mounted with rubber-in-shear on an isolation plate that is rubber-in-shear isolated in the cabinet for reduced vibration.



Toolless Panel Access

Access panels do not require tools to open/close. Panels provide service access to the TXV, reversing valve, compressor, filters, and supply pan.



Integrated Hanging Brackets (Rubber Vibration Isolation)

Hanging brackets and integrated into the unit base and included factory provided rubber-in-shear vibration isolation.

Bottom Service Access

Expansion valve, reversing valve, filter drier, air filters, supply fan and motor can all be accessed from the bottom of the unit for ease of in-place maintenance.



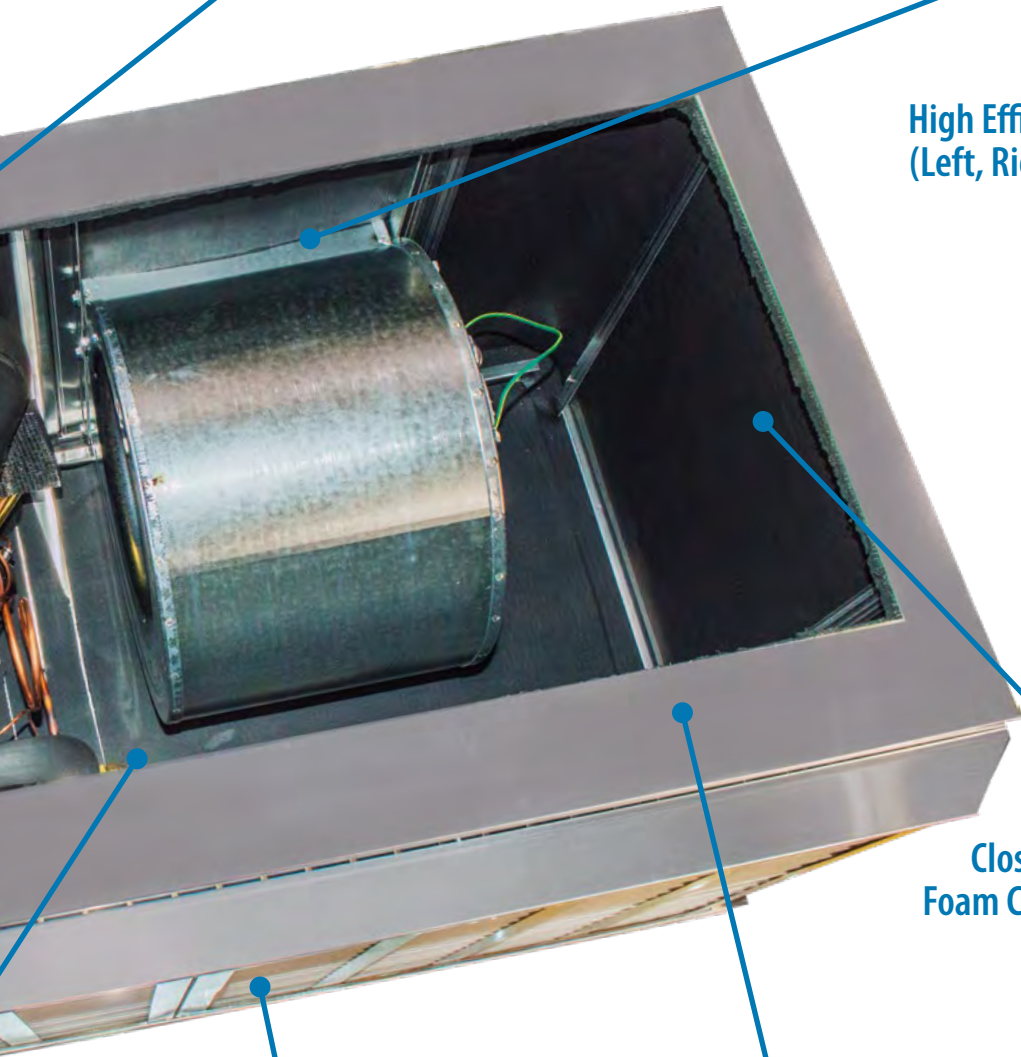
Copper Coaxial Refrigerant-to-Water Heat Exchanger

Coaxial heat exchanger provides reliable operation. Cupronickel heat exchanger option is available for additional corrosion resistance.



High Efficiency Fan (Left, Right, or End Discharge)

Direct drive forward curved supply fan is available with Permanent Split Capacitor (PSC) motor or Electronically Commutated Motor (ECM). Fan can be factory or field converted between side and end discharge.



Insulated Service Access Panel

Closed Cell Neoprene Foam Cabinet Insulation

Provides cleaner, fiber-free air and reduces sound transmission.

Aluminum Microchannel Air Coil Horizontal Configuration (Left or Right Return)

Large face area DX coil improves the efficiency of the unit, minimizes air pressure drop, and reduces required fan horsepower. Aluminum microchannel coils minimize refrigerant charge and overall unit weight. Factory provided return duct flange connection is available.

Standard Two Inch Pleated Filter

Two inch filter rack is included as standard on B Cabinet (1 ¼ ton) and larger units for pleated MERV 8 filtration. Unit can also be factory configured with a four inch filter rack for high efficiency filtration applications. Filters can be accessed from the side or bottom of the unit for ease of maintenance.



WH Series Performance Data with PSC Motor Fan

WH Model (MBH)	Airflow (cfm)	Fluid Flow (gpm)	Voltage	Water Loop (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)				Ground Water (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)				Ground Loop (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)			
				Cooling EWT 86F		Heating EWT 68F		Cooling EWT 59F		Heating EWT 50F		Cooling EWT 77F		Heating EWT 32F	
				Btu/HR	EER	Btu/hr	COP	Btu/HR	EER	Btu/hr	COP	Btu/HR	EER	Btu/hr	COP
WH-015	570	3.75	208/230V-60Hz-1ph 265V-60Hz-1ph	14,100	15.40	18,100	5.80	16,500	26.10	14,600	4.90	14,700	18.20	11100	4.80
WH-018	700	4.50		17,200	14.46	21,600	4.85	19,600	23.50	17,600	4.60	17,600	17.60	13,500	4.40
WH-024	800	6.00	208/230V-60Hz-1ph 265V-60Hz-1ph 208/230V-60Hz-3ph 460V-60Hz-3ph	23,600	14.40	27,800	4.70	28,100	22.80	20,800	3.60	24,200	16.50	16,000	3.10
WH-030	1,000	7.50		28,400	14.70	35,100	4.30	31,200	20.90	26,500	3.60	31,100	16.00	20,700	3.10
WH-036	1,260	9.00		35,600	14.70	43,800	4.70	39,800	22.30	35,900	4.10	37,700	17.00	27,600	3.70
WH-042	1,420	10.50		41,200	15.00	49,200	4.70	46,300	21.10	38,100	3.80	43,500	17.60	29,500	3.30
WH-048	1,660	12.00		49,500	14.50	63,700	5.00	57,100	21.30	52,100	4.20	52,300	16.60	40,100	3.90
WH-060	1,980	15.00		60,000	14.60	76,700	4.80	66,200	19.30	62,300	4.20	61,200	15.30	47,900	3.80

All Aluminum Construction

AAON Water-Source Heat Pumps feature all aluminum cabinet construction with a unit weight significantly less than a conventional water-source heat pump galvanized steel unit. Additional construction features include hem bends on exposed edges, integrated hanging brackets with rubber vibration isolation, and a filter rack that is integrated into the unit cabinet.

All Metal Pallet

AAON designed a custom sheet metal pallet for the AAON Water-Source Heat Pump. The pallet allows multiple units to be stacked and is used to ship and store the units. Once the equipment is installed at the jobsite the metal pallet can be easily sold or recycled!

Microchannel Coils

AAON Water-Source Heat Pumps feature an aluminum microchannel indoor DX coil with a larger face area than conventional water-source heat pumps. Microchannel coils improve the efficiency of the unit, reduce air pressure drop, reduce fan horsepower, and reduce unit weight.

Pioneer Controls

AAON Pioneer Silver and Pioneer Gold water-source heat pump controllers are designed, engineered, and supported by AAON. All of the energy saving features and options available on AAON WH and WV Series water-source pumps can be controlled with these systems. Pioneer Silver is designed for use with a standard heat pump thermostat. Pioneer Gold is designed for stand alone control with space sensor with BACnet IP/MSTP and Modbus network capabilities.



Pioneer Gold



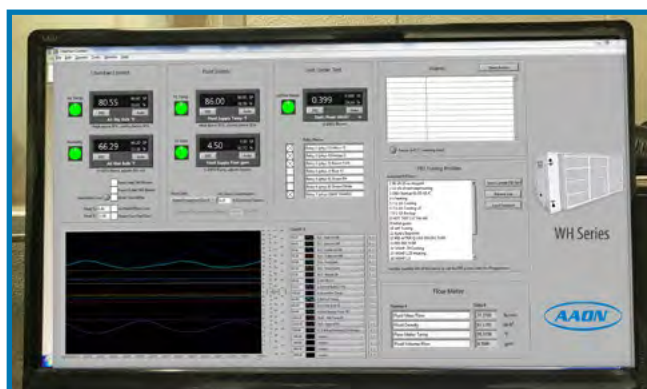
Pioneer Silver

WH Series Performance Data with High Efficiency ECM Fan

WH Model (MBH)	Airflow (cfm)	Fluid Flow (gpm)	Voltage	Water Loop (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)				Ground Water (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)				Ground Loop (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)			
				Cooling EWT 86F		Heating EWT 68F		Cooling EWT 59F		Heating EWT 50F		Cooling EWT 77F		Heating EWT 32F	
				Btu/HR	EER	Btu/hr	COP	Btu/HR	EER	Btu/hr	COP	Btu/HR	EER	Btu/hr	COP
WH-006	230	2.00	208/230V-60Hz-1ph	5,700	14.00	7,200	4.90	7,100	24.20	5,900	4.10	6,400	17.20	4,600	3.60
WH-009	380	3.00		115V-60Hz-1ph	8,700	14.60	10,800	5.10	10,300	23.30	8,800	4.20	9,300	17.30	7,750
WH-012	420	4.00	265V-60Hz-1ph	11,000	12.80	15,100	4.60	13,300	20.70	12,600	4.10	11,800	15.00	10,000	3.60
WH-015	610	3.75	208/230V-60Hz-1ph	14,200	17.00	17,900	6.30	17,100	29.90	14,400	5.20	14,700	19.90	10,900	5.20
WH-018	640	4.50		265V-60Hz-1ph	16,600	15.68	20,000	4.93	19,500	26.50	16,100	4.80	17,300	19.20	13,300
WH-024	800	6.00	208/230V-60Hz-1ph	24,000	15.10	27,700	5.00	28,300	24.30	21,300	3.80	24,900	17.60	17,600	3.20
WH-030	1,010	7.50		28,800	15.20	34,900	4.50	32,100	22.60	28,500	3.60	31,100	18.80	23,700	3.10
WH-036	1,260	9.00		36,100	15.20	43,500	5.00	40,700	24.30	36,400	4.40	38,000	18.50	29,800	4.10
WH-042	1,420	10.50		41,800	15.30	48,900	5.00	47,800	22.90	39,700	4.40	44,100	18.50	32,300	3.30
WH-048	1,670	12.00		51,700	16.80	63,200	5.30	59,400	24.40	52,000	4.30	54,100	18.70	43,100	4.00
WH-060	2,000	15.00		61,000	15.10	76,700	4.80	67,400	21.60	63,500	4.60	62,300	16.90	52,700	4.40

Advanced Testing Technology

All AAON Water-Source Heat Pump designs are lab tested before going into production. The state-of-the-art AAON Water-Source Heat Pump Laboratory utilizes the most recent advances in HVAC chamber testing to allow testing from 20-120 °F, 30-80% RH, up to 6,000 cfm, and up to 50 gpm. Performance testing completed in accordance with ISO Standard 13256-1.



▲ Advanced Test Chamber Provides Detailed Testing Results

Replacement Ready

AAON Water-Source Heat Pumps will be stocked and ready to ship. Contact your local AAON representative for availability. Replacement units match the size of conventional water-source heat pump units.

▼ High Tech Water-Source Heat Pump Testing Laboratory



AHRI Certified

AAON water-source heat pumps are AHRI performance certified and tested in accordance with ISO Standard 132256-1. Certificates can be downloaded directly from the AHRI Certified Directory, www.ahridirectory.org.





AAON Environmentally Friendly HVAC Product Family

ROOFTOP UNITS (2-240 tons)



WATER-SOURCE HEAT PUMPS (½ - 230 tons)



PACKAGED OUTDOOR MECHANICAL ROOMS (4-540 tons)



INDOOR AIR HANDLING UNITS (800 - 100,000 + cfm)



SELF-CONTAINED UNITS (3-70 tons)



CONDENSING UNITS (2-230 tons)



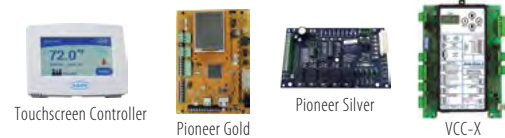
OUTDOOR AIR HANDLING UNITS (800 - 100,000 + cfm)



COILS BOOSTER, HYDRONIC, & DX



CONTROLS (WSHP, RTU, SELF-CONTAINED, & SPLIT SYSTEM)



HEATING AND COOLING FOR...

- Auditoriums
- Convenience Stores
- Health Clubs
- Health Care Facilities
- Homes
- Lodgings
- Manufacturing
- Museums & Libraries
- Natatoriums
- Office Buildings
- Restaurants
- Retail Store
- Schools
- Supermarkets



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